# Key Challenges and Opportunities in Horticulture-Based Ecotourism Development in The Ulavapadu Region of Andhra Pradesh, India

ABSTRACT

The present study focussed on the opportunities and challenges involved in the partial conversion of the untapped potential of horticultural heritage farms into horticulture-based eco-tourism farms. Ulavapadu region of SPSR Nellore district in Andhra Pradesh is very unique for its rich horticultural heritage with the vast areas covered under cultivation of mango and sapota, apart from other horticultural and field crops. The region possesses very age-old mango and sapota orchards with unique tastes and called the names ‘Ulavapadu Mango’ and ‘Ulavapadu Sapota’, which brought the speciality to this region. However, in the recent past, the growers have been distressed with the performance of these crops and started removing the age-old plants under the changed climatic conditions, which is nothing but a loss to the horticultural heritage. Most of these orchards are adjacent to the National High Way, thus the concept of combining the horticultural heritage with ecotourism promises sustainability, self-reliance and financial prosperity to the mango and sapota growers of this region. A paradigm shift in the mindset of farmers from the traditional cultivation of orchards to profitable commercial utilization coupled with the rise of ecotourism, offers a unique opportunity for the growers to diversify their income sources by involving the farm stay hospitality and attracting visitors to buy the farm produce reasonably at a cheaper cost, buying directly from the producers by avoiding the multichannel trading. The study also aimed the establishment of an ecotourism model to transform the mango and sapota orchards of the Ulavapadu region into a horti-ecotourism hub by incorporating guided tours of the regional cultural heritage with farm-stay experiences along with the organic fruit-picking events, aroma therapy and the educational sessions on sustainable cultivation of crops, could boost the economy and reduces the environmental footprint by preserving the region’s horticultural heritage and biodiversity. Integrating eco-friendly tourism practices along with the sustainable model aligns with the Government of Andhra Pradesh’s goal for rural development, conservation and sustainable agricultural practices, and provides an enriching experience for the visitors and lasting benefits for the local communities.

**Keywords:** Horti-ecotourism, Mango, Sapota, Ulavapadu, Opportunities, Challenges

# Introduction

With the continuous development and progress of human civilization, the standard of human life and the requirements for the quality of life are constantly improving. People pay more attention to ecology and tourism (Lu, 1996). Therefore, in recent years, eco-tourism, based on a good ecological environment, has developed rapidly in the world (Deng and Liu, 2020; Shi et al. 2022). Eco-tourism is defined as a purposeful travel to natural areas to learn about the cultural and natural history of the environment, while taking care not to alter the integrity of the environment and contributing to the economic welfare of the local people (Enviroteach, March 2004; Baloch et al. 2023). Eco-tourism, natural resource conservation and local livelihood are the most talked about issues globally, at present. Ecotourism is seen as nature-based tourism that addresses two primary attributes: biodiversity conservation and livelihood.

Improvement (Mree et al. 2020). Good governance, functional tour guides and the impact of psychological, technical and political factors, all play an important role in the success of ecotourism. Further, the issue of climate change and carbon footprints are additional to it. Also, measuring the carrying capacity of ecotourism sites and providing vocational training to the unskilled local community will enhance the overall efficiency of the ecotourism sector.

Ecotourism has been gaining momentum in biodiversity hotspots pertaining to its potential to boost both rural livelihoods and environmental conservation. It has the ability to alleviate poverty, which is profoundly embedded in several areas of society (Sirivongs and Tsuchiya, 2012: Ferraro and Hanauer, 2014; Makindi, 2016; Asuk et al. 2018). The International Ecotourism Society (TIES) defined ecotourism as ‘ethical travel to natural areas that help the well-being of local people and conserves the environment’. Thus, the essence of ecotourism consists primarily of (i) a nature-based solution (ii) a sustainability dimension from the standpoint of conservation (iii) a sustainable human factor considering local people's participation and benefits (iv) learning, education and awareness and (v) ethical marketing and business management of indigenous products. Furthermore, it promotes recycling and defends against the ongoing threat of global warming and pollution (Poyyamoli, 2018). Thus, Honey (2008) opined that ecotourism can be seen in the travel industry as a lifestyle, a collection of activities and a set of principles if properly planned and performed. Cabral and Dhar (2019) reported that ecotourism being a subcategory of sustainable tourism contributes to revenue generation via effective market analysis.

At present, ecotourism has become one of the fastest-growing sections of the travel industry accounting for more than 6% of global GDP (UNWTO World Report, 2017) and is anticipated to grow seven times faster than the rest of the tourism industry. In 2019, the global ecotourism sector was valued at 181.1 billion US dollars. The industry was expected to reach 333.8 billion US dollars by the year 2027 with a 14.3% compound annual growth rate (Lock, 2021).

Horti-ecotourism is a form of tourism which has been designed to capitalize on the rural culture as a tourist attraction. It has been designed as a new dimension in tourism as a potential source of income and job-generating activities. The relationship between tourism and horticulture could be a key element in protecting the natural environment with social responsibility in the form of tourism. Travel and tourism are human-resource intensive providing employment directly and indirectly up to 8% of the global workforce. It was

estimated that one job in the core tourism industry creates about one and a half additional or indirect jobs in the tourism-related economy. Diversion of core tourism to horti-ecotourism is expected to reinforce the employment potential of the sector with increased local hiring, sourcing and significant opportunities in tourism oriented towards local culture and the natural environment. Thus, the main aim of the programme should be *“To use the orchard and the resources of horticulture to inspire and enable people from all walks of life to take responsibility for their environment”*.

In the present study, the selected Ulavapadu region is located on the eastern coast of Andhra Pradesh, India, about 90 kilometres from the state capital, Amaravati. Its proximity to both the coastal areas and the fertile plains of the Penna River makes it an excellent agricultural zone. The climate in the region is ideal for growing a variety of fruits, mangoes and sapota being the standout crops. Mangoes, especially varieties like Banganapalli, Totapuri and Kottapalli Kobbari are highly priced across India, while sapota known for its sweetness and deliciousness is another significant agricultural product of the region. These orchards rich in biodiversity and agricultural heritage offer an excellent opportunity for successful horti-ecotourism entrepreneurship which combines horticulture with ecological tourism.

The region's unique agricultural practices, along with its natural beauty make it an ideal candidate for horti-ecotourism. The region’s flora and fauna contribute to its ecological value creating opportunities for ecotourism activities. The Penna River and surrounding wetlands offer additional potential for ecotourism with bird watching, nature walks and scenic landscapes enhancing the region’s attractiveness as a tourist destination.

By developing a strategic horti-ecotourism model, Ulavapadu can not only preserve its horticultural heritage but also promote sustainable tourism, boost the local economy and educate visitors about the importance of horticultural practices and environmental conservation of mango and sapota orchards. Keeping all these points in view, the present investigation was aimed at the following objectives.

1. The main aim of the present study is observational and based mainly upon the primary data available to find out the tourist potential of the area.
2. To use the orchard and the resources of horticulture to inspire and enable people from all walks of life to take responsibility towards the conservation of biodiversity and protecting the environment.
3. To protect the biodiversity of mango and sapota as well as to enhance the livelihood of farmers and the poor people living in the surrounding areas.

# Brief research done in India and abroad on opportunities and scope for horti-ecotourism.

Horti-ecotourism mainly focuses on visiting the natural landscapes, orchards, plantations, botanical gardens and other horticulturally significant sites. In India, this form of tourism has gained attention as an emerging sector due to the country’s rich biodiversity and varied agro-climatic conditions that support diverse horticultural practices from spice cultivation in Kerala to apple cultivation in Himachal Pradesh. The following review explores key literature on horti-ecotourism in India and abroad, highlighting its development, significance, benefits, challenges and case studies from various regions along with the agri-ecotourism.

Horticultural products like fruits, vegetables, herbs and spices are important ingredients in hospitality industries like parties, functions, hotels, restaurants, etc. Though the fact that horticultural production represents a part of the overall agricultural production yield and value in the country, the sector makes a significant contribution to food security, improving nutrition, rural livelihoods and economic growth since production is mainly based on small-scale farming (Urry, 1990).

Involvement of local communities especially the growers of orchards/plantation as well as the local poor in the tourism value chain could contribute to the development of the local economy thus generating economy and reducing poverty to a certain extent. This can include the supply of local products, labour and tourism services. In this regard, increasing evidence has been observed in recent times that more sustainable tourism in rural areas could lead to more positive poverty reduction.

Nowadays more and more travellers are found to favour environmentally- friendly tourism and are willing to pay for related experiences. Further, traditional mass tourism has reached a stage of steady growth. In contrast, horti-ecotourism is gaining the lead and is predicted to grow rapidly over the next few decades due to soft adventure tourism towards visiting nature, heritage and culture. Horti-ecotourism is similar to natural ecotourism except that its primary appeal is not the natural landscape, but the cultural landscape. Horti-

Ecotourism can promote regional development and help in the conservation of diversity. Horti-ecotourism thus helps in the *in-situ* conservation of plant and animal genetic resources. An advantage of the horti-ecotourism approach is that rural areas are popular destinations for holiday spending and excursions particularly cultural landscapes which still give a glimpse of how the past generations lived and worked. Thus, horti-ecotourism can generate additional income for farmers and contribute to the conservation and development of the whole region.

Rueegg (2009) postulated that the tourism industry offers opportunities to stimulate local agricultural development through backward linkages that allow local farmers to supply the food needs of tourism establishments such as hotels and lodges in their locality. In line with this argument, Rogerson (2012) opined that building a linkage between tourism and agricultural sectors is a crucial factor in maximizing the economic impacts in developing countries.

Bengesi and Abdalla (2018) reported that creating and strengthening the linkages between tourism and horticulture, especially the food sector can provide an adjacent market for locally produced horticultural food and beverage products.

Singh and Singh (2020) reported that mango and sapota orchards in the regions of Uttar Pradesh and Andhra Pradesh were involved as potential horti-ecotourism sites emphasizing their contribution to the regional economy and tourism.

However, Bengesi and Abdalla (2018) opined that a linkage between the tourism industry and local horticultural growers/produce suppliers is not clear despite the positive intentions of the government and other key stakeholders to promote tourism and the horticultural sector. Farmers, particularly horticultural crop growers, are largely disconnected from the local tourism industry despite the fact that tourism consumes a large proportion of fruits and vegetables as products of the horticultural sector (RGZ, 2004). The continuous growth of the tourism sector in any region will enhance the standard of livelihood of the local people. An increase in tourist visits signifies a need to increase the share of local horticultural products such as fruits and vegetables in the local tourism market to cope with the growing tourist population (ZCT, 2011).

Gaur *et al.* (2020) reviewed the case studies of agri-ecotourism initiatives in various states of India and found that sustainable agri-ecotourism practices led to the empowerment of

local communities. They also pointed out the challenges of balancing the growth of tourism with environmental preservation.

Tourism is linked to poverty reduction in a particular locality because of its contribution to the economic development of the destinations (Luvanga and Shitundu, 2003). Several reasons have been advanced as to why tourism is an effective tool for economic growth. Tourists, as consumers arriving at the destination, provide local communities with the opportunities to produce and selling additional goods and services in exchange for cash (Honeck, 2008). This means tourism contributes to raising local production of additional goods and services such as agricultural products *i.e.,* fruits, flowers, vegetables, spices, condiments, medicinal and aromatics produced in the region and the obvious outcomes from such activities are income and employment opportunities to the local communities. In line with this argument, the National Horticulture Board (2019), New Delhi also highlighted the successful models of integrating horticulture with tourism in states like Kerala (spice gardens), Maharashtra (fruit farms) and Meghalaya (orange and strawberry orchards).

Tourism can develop in poor and marginal areas with limited export and diversification options by attracting tourists due to their naturality, culture, wildlife and landscape value (Luvanga and Shitundu, 2003). This means tourism can create employment opportunities and income-generating projects in poor and marginal areas in the same way it does in other areas. Viewing this way will imply that tourism is among the few sectors that can benefit communities in diverse ecological regions. Given the fact that horticulture is one of the potential sources of food supplies, sustaining the tourism sector is likely to stimulate the growth of the horticultural sector.

Kumar *et.al.* (2018) observed a lot of tourists attraction and income generation to the local farmers of floriculture-based horti-ecotourism initiatives such as organizing flower festivals in Himachal Pradesh.

Tourism also offers labour-intensive and small-scale opportunities compared to other non-agricultural activities (UNCTAD, 2007). The sector employs a high proportion of women, and semi-skilled labour and values natural resources and culture which may feature among the few assets belonging to the poor (Luvanga and Shitundu, 2003). This means tourism through employment creation and income generation offers a relatively wider range of poverty reduction opportunities to many members of society including vulnerable groups such as

Women. Therefore, the analysis of the interface between tourism and horticultural sub-sectors provides important framework linkages of tourism potentials in horticulture enterprise.

Singh *et al.* (2018) also assessed the potential of agri-ecotourism in rural India and found that it has played a key role in boosting the local economies and helped the farmers by diversifying their income sources through direct sales of farm products, guided tours and farm stays.

Ali *et al.* (2002) opined that in addition to the economic benefits of horticulture for the producer, the high labour demands of horticultural production and related processing industries have the added benefit of local employment generation. A short growth cycle of vegetables gives an advantage over cereal crops which have relatively longer growth cycles. A shorter growth cycle allows horticultural crops to grow several cycles in a calendar year which leads to high profit in a very short period.

Sharma and Rana (2015) in their study on agri-ecotourism in India highlighted the importance of promoting rural tourism through agriculture. They emphasized that regions like Himachal Pradesh, Uttaranchal and Maharashtra are ideal for agri-ecotourism given their diverse agricultural production from apple orchards to strawberry farms.

Chandran and Kuriakose (2017) explored the role of horti-ecotourism in Kerala, specifically focusing on spice plantations. Their research underscored the importance of these plantations as educational tourism hubs where visitors could learn about sustainable farming, organic cultivation and the significance of biodiversity conservation. Bengesi (2018) reported that farmers engaged in horticultural crop production earned higher net farm income than those who grew staple crops.

Mshenga (2010) stated that for tourism to contribute to the local economy, improve rural livelihood and alleviate poverty, it has to develop linkages with different sectors such as agriculture and related activities which is an important economic source for the poor (Bengesi and Abdalla, 2018). Rogerson (2012) opined that broadening and deepening local linkages between tourism and horticulture sectors is an important part of making tourism work for economic diversification. According to Rogerson (2012), without inter-sectorial collaboration and fomenting sustainable linkages between tourism demand and other sectors in the destination economy, tourism will fail to work as a trigger for local entrepreneurship.

Thus, wholesome, ecotourism has become an important economic activity in natural areas around the world. It provides opportunities for visitors to experience the powerful manifestations of nature and culture and to learn about the importance of biodiversity conservation and the local cultures. At the same time, ecotourism generates income for conservation and economic benefits for communities living in rural and remote areas. The attributes of ecotourism can make it a valuable tool for conservation. Its implementation can:

* Generate economic value to the ecosystem services that can be provided to the protected areas.
* Generate direct income for the conservation of protected areas.
* Generate direct and indirect income for local stakeholders creating incentives for conservation in local communities.
* Build the constituencies for conservation locally, nationally and internationally.
* Promote sustainable use of natural resources and
* Reduce threats to biodiversity

Some areas have greater potential for realizing the benefits of ecotourism than others. In areas with low visitation, the potential is not usually clear. In others, tourism may already be an important factor. In both cases, the ecotourism planning process is critical to achieve ecotourism’s potential as a powerful conservation strategy.

Protected area managers then, are faced with the challenge of controlling and limiting the impacts of unfettered nature tourism while at the same time deciding where and how to plan adequately for the development of ecotourism as a compatible economic development option.

By integrating ecotourism development into a systematic approach to conservation using the available horticultural heritage can ensure that horti-ecotourism is only initiated when it is the most effective strategy to achieve tangible, lasting results at scale. These distinct but intimately interrelated aspects of ecotourism - conservation management and business development - must be fully understood by ecotourism planners and protected area managers, before moving ahead with plans to implement the horti-ecotourism activities.

# Challenges in horti-ecotourism

Although there is a widespread agreement that increased demands for horticultural products from tourism should be met by local agricultural supplies as asserted by Ashley *et al.* (2006), Ruegg (2009), Mshenga and Owuor (2009) and Mshenga (2010). Timms and Neill (2011) and Rogerson (2012) found that the empirical part of achieving these benefits for the most part has been less and less. Torres and Momsen (2011) identified various critical constraints preventing local producer’s involvement in supply of the food products to tourist establishments. Ashley *et al.* (2006), while focussing on the local economy in the Caribbean Islands, reported that among the challenges observed as far as local sourcing is concerned are quality, quantity and regularity of supply are often inadequate. Local producers are not sufficiently aware of hotel requirements and how to match tourist preferences to the required quality.

The challenges were further classified by Anderson and Juma (2011) and Rueegg (2009) into different categories namely demand-related, supply-related, marketing and intermediary, legal and institutional-related as well as government policy factors/challenges. Demand-related challenges include factors such as type of accommodation with respect to ownership, size and class of accommodation, tourism industry maturity, health and safety concerns, training and nationality of chefs among others. Supply-related factors include physical proximity, quality and quantity of local product supplies, high prices of locally produced food and undercapitalization of the agrarian market. Examples of marketing and intermediary factors are marketing and infrastructure constraints, mistrust between the two parties, spatial patterns of supply and lack of information.

The government policy factors may include over-emphasis on tourism and neglect of other sectors, unfavourable investment policy and lack of credit and microfinance support (Anderson and Juma, 2011). Legal and institutional challenges include among others *viz.,* agreements/contacts kickbacks and weak market links among others (Rueegg, 2009). Therefore, to increase the positive impacts of tourism on poor people, the participation of smallholder farmers in the tourism industry as well as the economic benefits of the farmers from tourism activities, linkages between the tourism sector and agricultural/horticultural enterprises has to be promoted (Ashley *et al.,* 2006, Mshenga and Owuor, 2009 and Bengesi, 2018). It is from this context, this study was staged to examine the factors influencing tourism–horticulture linkages and how it enhances the income of smallholder farmers.

The environmental education programme targets learners and educators in particular as well as other adult and youth groups. The programme has three key focus areas which include a garden-based school programme, teacher professional development and the outreach greening programme. Each of these programmes has its goal, promoting the awareness of indigenous plant diversity and plant conservation. Through the garden-based school programme, thousands of learners specifically those from disadvantaged communities on the Cape Flats visit the garden for a 2-3 hour structured guided lesson. The lessons should be curriculum-linked and fun-filled activity-based programmes with experiential learning.

# Methodology

The data was collected from the officials of the State Department of Horticulture. The integrative literature review method has been used in the present study and its guidelines were followed as per the recommendations by several researchers. The purpose of the present study is to provide a descriptive analysis of the present state of ecotourism in India and overseas as a potential field to conserve biodiversity and reduce rural poverty. Content analysis has been identified as an observational approach for systematically evaluating various sorts of resources. Several researchers have used this approach for literature reviews including Chandel and Mishra (2016). As per Berg (2009), content analysis is a “careful, detailed, systematic examination and interpretation of a specific body of material to identify patterns, themes, biases, and meanings”. It considers the transformation of information and communication that will be analysed and compared with feasible interpretation.

Considering past review analyses, Agrawal and Redford (2006) conducted research on ecotourism as a strategy for poverty alleviation and biodiversity conservation, focusing only on peer-reviewed articles. Their conclusions were detailed and recommended for better policy implementation to comprehend the trade-offs between the aforementioned notions. There are also case-specific qualitative literature reviews that individually peer-reviewed the status of ecotourism in developing countries such as India (Ghosh-Harihar *et al.,* 2019) and Tanzania (Mgonja*et al.*, 2015) or developed countries such as Mexico (Morgan and Winkler, 2020) and Botswana (Stone *et al.*, 2021).

This review analysis covered the success stories of agri-horti-ecotourism in different parts of the country and the world. The observational study covered the opportunities and challenges in planning and establishing horticulture-based ecotourism in the Ulavapadu.

Region of Andhra Pradesh. The present review study is based on the variations observed in the ecotourism research conducted in both developed and developing nations.

# Establishment of horticulture-based ecotourism model

Specific planning, mechanisms and tools are essential/critical to educate the small and medium sized tourism related enterprises. Further, the promotion and widespread use of internationally recognised standards for sustainable tourism could help the business to understand the practical aspects of sustainable tourism and assist with mobilising investment.

The concept of establishing an ecotourism model in Ulavapadu is driven by the need to promote environmental conservation, enhance local livelihoods and foster community participation.

# Opportunities for horti-ecotourism establishment in the Ulavapadu region of Andhra Pradesh

To transform the Ulavapadu region into a leading horti-ecotourism destination, the following components have been found essential:

## Agro-Tourism Experiences

Ulavapadu region of Andhra Pradesh is an ancient and rich heritage of Mango and Sapota orchards. Both these fruits cultivated in the region, irrespective of the variety, are called ‘Ulavapadu Mango’ and ‘Ulavapadu Sapota’ keeping their taste in mind. Yield and quality of the produce are influenced not only by the genetic makeup but also the environment and soil, thus it may be attributed as a specific character to the crops grown in this region. The fruits produced here are exported to various states and countries. Hence, the following activities can be offered for effective horti-ecotourism

* 1. **Farm Tours**: Visitors can be offered guided tours through the mango and sapota orchards, where they can learn about the cultivation process, seasonal cycles and the challenges faced by farmers. Tours can include hands-on experiences, such as helping in pruning the trees, involving in natural pest and disease control operations, and spraying protective chemicals if necessary during the right season.
  2. **Harvesting Experience**: The peak mango and sapota harvest seasons can be an exciting time for tourists who can participate in fruit-picking and taste and purchasing

Activities. This not only allows visitors to engage with the local culture but also increases the demand for seasonal labour benefiting the local community.

* 1. **Agro-Workshops**: Organizing workshops on organic farming, grafting techniques and sustainable orchard management practices will add value to the ecotourism experience. Visitors can learn from local farmers and experts which also adds an educational component to the tourism model.

## Eco-Friendly Accommodation and Services

Ulavapadu region is situated on the coastal belt of Andhra Pradesh, located at 15.1667oN 80.0oE and is in close proximity to the Bay of Bengal and the National High Way 16in between the Ongole and Kavali towns, thus can reach easily the area and can stay safely and comfortably. However, the following facilities are necessary to make the horticulture-based ecotourism a successful enterprise.

* 1. **Eco-Lodges**: Constructing eco-friendly accommodations using sustainable materials such as bamboo, mud and locally sourced materials where these lodges should be designed to minimize environmental impact by incorporating energy-efficient technologies, rainwater harvesting and waste management systems is important.
  2. **Farm Stays**: Creating opportunities for tourists to stay with local families and experience rural life firsthand in the form of "farm stay" allows guests to connect with the local culture and learn about traditional farming methods.
  3. **Cafes and Dining Experiences**: The establishment of cafes or restaurants serving fresh farm-to-table meals using organic produce from the orchards, such as mango-based dishes or sapota delicacies provides a unique culinary experience while promoting local produce.

## Conservation and Biodiversity Education

* 1. **Environmental Interpretation Centers**: Setting up small interpretation centres or museums that highlight the importance of maintaining biodiversity in orchards, the role of bees in pollination and the ecological benefits of sustainable farming practices is helpful.
  2. **Tree Plantation Drives**: Visitors can get engaged in tree plantation activities, helping the community plant new mango and sapota trees or restore native vegetation. This aligns with the environmental conservation goals of ecotourism.
  3. **Wildlife Watching**: The orchards and surrounding areas can also support various forms of wildlife such as birds, butterflies and insects. Wildlife-watching tours or photography workshops could be integrated into the tourism offerings, educating visitors about the ecological importance of orchards as habitats.

## Community Involvement and Capacity Building

* 1. **Training for Local Farmers**: Offering training programs to local farmers on eco-friendly farming practices, hospitality management and how to engage effectively with tourists ensures the sustainability of the ecotourism model and local communities benefit from the growth of tourism.
  2. **Local Handicrafts and Souvenirs**: Encouragement of local artisans to create and sell products related to agriculture, such as mango woodcrafts or sapota fruit-based items (eg.powders, flakes, jams, jellies, pickles, juices, etc.) helps to diversify the income source for the local communities.
  3. **Inclusive Decision-Making**: The involvement of local communities in the decision-making process ensures a stake in the development of the tourism model. This helps in managing tourist activities and providing insights into local customs and agricultural knowledge.

## Sustainable Marketing and Promotion

* 1. **Branding Ulavapadu as a Horti-Ecotourism Hub**: Developing a unique brand identity that focuses on the region’s agricultural and natural attractions and promoting it as a destination for horti-ecotourism, eco-friendly activities and educational farm experiences helps in marketing the products.
  2. **Digital Marketing**: Different digital tools like the use of social media platforms, travel blogs and tourism websites to promote the region highlighting the unique experiences such as mango picking festivals, farm-to-table dining, etc. provide an opportunity to participate in sustainable horticulture.
  3. **Partnerships with Travel Agencies and Eco-Tourism Networks**: Partnership with eco-tourism networks and tour operators specializing in sustainable travel to attract international and domestic tourists and develop packages that include farm stays, orchard tours and hands-on agricultural activities helps in creating employment opportunities and earning income to the local communities.

## Visits to other biodiversity areas nearby

* 1. Important visiting marine biodiversity areas are the Pakala Beach, Kothapatnam Beach, Eethamukkala Beach and the Ramayapatnam Port, which is under construction.
  2. Cultivation of Ground nut, Sweet Potato, Taro and many types of green leafy vegetables and seed-raised nurseries are common on the seashore sand dunes which is an exciting experience.

## Specialty Recipes of the Region

* 1. The region is rich in the rearing of fish, crab and shrimp, both under brackish and freshwater cultivation, thus availability and consumption of plenty of healthy seafood are common in the surrounding areas.
  2. The number of shrimp hatcheries are found in and around Ulavapadu village.
  3. ‘Nellore ChepalaPulusu’ is a well-known heritage of the region keeping its special taste not only in India but all over the world.
  4. ‘Ulavapadu Dum Biryani’ is very specialized in its taste and second to none in comparison to the ‘Hyderabad Dum Biryani’ or ‘Chennur Dum Biryani’ of Kadapa district.

## Visits to worship areas

* 1. The region is also very famous for visiting Hindu temples like Sri Varaha Lakshmi Narasimha shrine located at Singarayakonda and Tettu villages, Sri Valluramma Talli Temple located at the entrance of the Ongole town and the Lord Venkateswara Temple located at Malakonda (only on Saturday in the week). Hundreds of people used to visit these temples every day.

## Art and Culture

* 1. ‘Challa Yanadi Folk Dance’ and ‘Drama’ are very famous in the region which gives a unique feeling and lot of pleasure to mind.

# Challenges of Horti-Ecotourism Development in Ulavapadu region of Andhra Pradesh

While horticultural tourism has witnessed positive growth, several challenges also remain in its implementation as summarized hereunder.

1. ***Capital mobilization:*** Farmers of the region are a small and marginal category, hence capital mobilization is the major challenge ahead in its implementation.
2. ***Infrastructure and connectivity****:* Interior rural areas often lack proper infrastructure such as roads, transportation and sanitation, making it difficult to attract tourists. Availability of good transportation facilities 24X7 is key in the success of the programme.
3. ***Lack of training and awareness****:* Both farmers and local stakeholders need better training to engage in tourism effectively. The local communities are unaware of the potential of horti-ecotourism and its economic benefits.
4. ***Technical know-how:*** Technical know-how is the major issue, as no qualified tourism managers and guides are available in this particular sector. Proper planning and Coordination between the Departments of Horticulture and Tourism as well as Culture is very important and key to the success.
5. ***Lodging and Boarding facilities:*** The availability of good quality Hotels and Multicuisine Restaurants is very important. Further, the affordable cost of tariff in bearing the hotels and food is very important.
6. ***Safety standards:*** The safety of the visitors is the prime concern to be kept in mind while planning and executing the horti-ecotourism programmes.
7. ***Environmental concerns****:* While tourism can generate income, there are certain concerns about its potential to disrupt the ecosystem, particularly if not managed sustainably.
8. ***Sanitation of the sites****:* Maintenance of sanitation in the visiting areas and good landscaping in the visiting sites are very important in attracting tourists.
9. ***Proper propaganda:*** Proper publicity in gathering the travellers through both online and off-line platforms is very important.

# Conclusions

Horti-ecotourism presents a promising opportunity for rural development in India. These tourism models not only provide economic benefits to local communities but also contribute to environmental sustainability and the preservation of agricultural/horticultural heritage. However, challenges such as infrastructure development, seasonal dependency, coordination between the horticultural and tourism departments and training the locals and guides must be addressed for these sectors to reach their full potential.

Transforming the mango and sapota orchards of Ulavapaduinto short-ecotourism hub is an innovative approach to sustainable rural development. By focusing on eco-friendly practices, community involvement and educational tourism development Ulavapadu can emerge as a model for horti-tourism in the remaining parts of Andhra Pradesh and India. The proposed model offers a win-win scenario and promotes environmental conservation, provides economic benefits to local farmers and educates tourists about the critical intersection of horticultural practices in the successful cultivation of mango and sapota as well as the ecology. With the right infrastructure, community participation and sustainable practices, Ulavapadu can become a leading example of horti-ecotourism in India.

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